

U.S. Patent Application Serial No. 09/417,705  
Amendment filed October 6, 2006  
Reply to OA dated July 13, 2006

**REMARKS:**

Claims 17-23 are currently pending, of which claims 17, 18 and 21-23 have been amended herein. Claim 16 has been canceled herein without prejudice or disclaimer as to its subject matter.

Claims 16, 17, and 21-23 stand rejected under USC 103(a) as obvious over USP 6,628,328 (Yokouchi) in view of USP 5,835,164 (Kanai).

Applicant respectfully traverses this rejection, for the following reasons.

According to the principles disclosed by the subject application, an image signal corresponding to an optical image of an objective scene is generated on an imaging surface of an imaging device. A processor subjects the image signal generated by the imaging surface to signal processes including a thinning process so as to create processed image data at a rate of one screen per a first time period. The processed image data output from the processor is written to a memory having a single input/output port by a writer. A reader reads the processed image data stored in the memory at a rate of one screen per a second time period which is shorter than the first time period. A displayer displays an image based on the processed image data read out by the reader.

A first instructor instructs the processor to suspend the thinning process at a time of accepting a recording operation. A second instructor instructs the reader to suspend a reading process in

association with an instructing process of the first instructor. The processed image data stored in the memory is recorded to a record medium by a recorder in response to the recording operation.

Since the thinning process is carried out before accepting the recording operation, a resolution of the processed image data created by the processor prior to the recording operation is lower than the resolution of the imaging surface. The processed image data having such a low resolution is written to the memory by the writer at a rate of one screen per the first time period and read from the memory at a rate of one screen per the second time period which is shorter than the first time period, and therefore, a moving image based on the read processed image data is displayed by the displayer. Consequently, it is possible to display a moving image having a designated screen rate with preventing a process from being collapsed.

Furthermore, the thinning process is suspended at a time of accepting the recording operation, and therefore, the processed image data having a high resolution is written into the memory. The processed image data stored in the memory is then recorded to the record medium by the recorder. At this time, the reader suspends the reading process. Accordingly, it is possible to prevent a process from being collapsed irrespective of the processed image data has the high resolution.

Thus, a collapse of a process to display a real-time moving image having a designated screen rate is prevented by writing the processed image data to the memory at a rate of one screen per the

first time period while reading from the memory at a rate of one screen per the second time period shorter than the first time period. Furthermore, a collapse of a process to record the processed image data to the record medium is prevented by suspending the thinning process and the reading process at a time of accepting the recording operation.

The Examiner alleges in the second paragraph, page 6 of the Office Action dated July 13, 2006 as follows:

Regarding claim 23, **Yokouchi et al.** discloses a second instructor for instructing said reader to suspend a reading process in association with an instructing process of said first instructor (**Yokouchi et al.** discloses that when displaying the object image in the liquid display unit, a skipping read mode is used; when a still picture is recorded in the recording medium, the skipping read mode is switched to the all-pixel read mode, column 9, lines 1-20. This means that when a still picture is recorded in the recording medium, the skipping read mode is suspended).

However, Applicant notes that the reading process suspended at a time of accepting the recording operation, according to the principles disclosed by the subject application, is a process of reading the processed image data stored in the memory, and therefore, suspending the reading process is entirely different from suspending the above described skipping read mode.

More specifically, **Yokouchi** discloses to select the skipping read mode so as to display a real-time moving image in the liquid display unit while select the all-pixel read mode so as to record a still picture in the recording medium. **Yokouchi** fails to disclose or remotely suggest anything about the principles disclosed by the subject application in which a collapse of a process to display a real-time moving image having a designated screen rate is prevented by writing the processed image data to the memory at a rate of one screen per the first time period while reading from the memory at a rate of one screen per the second time period shorter than the first time period, and a collapse of a process to record the processed image data to the record medium is prevented by suspending the thinning process and the reading process at a time of accepting the recording operation.

**Kanai** discloses to write digital data into a memory at a first rate based on a writing control clock and read the digital data from the memory at a second rate which is  $n$  times the first rate ( $n$  is an integer greater than one). **Kanai** fails to disclose or remotely suggest anything about the above described principles disclosed by the subject application.

**Yokouchi** and **Kanai**, alone or in combination, fail to describe, teach, or suggest the following combination of features set forth in claim 23, as amended:

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A digital camera, comprising: an imaging device having an imaging surface which generates an image signal corresponding to an optical image of an objective scene; a processor for subjecting the image signal generated by said imaging surface to signal processes including a thinning process so as to create processed image data at a rate of one screen per a first time period; a memory having a single input/output port; a writer for writing to said memory the processed image data output from said processor; a reader for reading the processed image data stored in said memory at a rate of one screen per a second time period which is shorter than the first time period; a displayer for displaying an image based on the processed image data read out by said reader; a first instructor for instructing said processor to suspend the thinning process at a time of accepting a recording operation; and a recorder for recording to a record medium the processed image data stored in said memory in response to the recording operation, and further comprising a second instructor for instructing said reader to suspend a reading process in association with an instructing process of said first instructor.

Accordingly, in view of the above, Applicant respectfully submits that the rejection of claim 23 should be withdrawn. Additionally, it is submitted that the rejection of claims 17, 21, and 22 should be withdrawn by virtue of their dependency.

Claims 18-20 stand rejected under USC 103(a) as obvious over Yokouchi in view of Kanai and USP 6,295,596 (Hirabayashi).

Applicant respectfully traverses this rejection, for the following reasons.

**Hirabayashi** fails to remedy the above-discussed deficiencies of the rejection of claim 23.

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Accordingly, Applicant respectfully submits that the rejection of claims 18-20 should be withdrawn by virtue of their dependency.

In view of the aforementioned amendments and accompanying remarks, all claims currently pending are in condition for examination.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

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In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due now or in the future with respect to this application, to Deposit Account No. 01-2340.

Respectfully submitted,  
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